

***Final Evaluation Findings
Massachusetts Coastal Zone Management and Waquoit Bay NERR
February 1999 to August 2003***

Office of Ocean and Coastal Resource Management
National Ocean Service
National Oceanic and Atmospheric Administration
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Overview

Executive Summary

The conclusion of this evaluation is that Massachusetts Executive Office of Environmental Affairs (EOEA) and the Department of Conservation & Recreation (DCR) are successfully implementing and enforcing the federally approved Office of Coastal Zone Management (MCMP) and the Waquoit Bay National Estuarine Research Reserve (WBNERR). Overall, both programs have developed into mature programs with important roles in managing the state's coastal resources. In addition, both programs are recognized as national leaders in coastal management, particularly in education and providing support for local decision-makers. Waquoit has developed an extensive and necessary role in educating the community, the schools, and coastal managers. WBNERR worked closely with MCMP and Sea Grant in implementing the first official Coastal Training Program in the NERR system.

The MCMP regional offices work directly with coastal communities on regional issues such as conservation subdivision design and use of native plant species on the North Shore. Both programs are continuing to develop new initiatives to address emerging coastal issues, such as ocean management and climate change. The MCMP has become a key coordinating body with local, state and federal partners and provides technical assistance to local governments on issues such as growth management.

The evaluation team was impressed with the level of coordination and cooperation between CZM and WBNERR. The evaluation team encourages both programs to continue to take a strategic approach to partnerships in the future. This document contains ten (10) Program Suggestions that describe actions that NOAA believes the Executive Office of Environmental Affairs (EOEA) and the Department of Conservation & Recreation (DCR) should take to improve the programs. Program suggestions are currently not mandatory, as opposed to Necessary Actions (there were no Necessary Actions).

Introduction

Section 312 and 315 of the Coastal Zone Management Acts of 1972 (CZMA), as amended, require the National Oceanic and Atmospheric Administration (NOAA) to conduct periodic evaluations of federally approved state coastal zone management programs (CZMPs) and National Estuarine Research Reserves (NERRs). This review examined the operation and management of the Office of Coastal Zone Management (CZM) for the period since February 1999, and the Waquoit Bay National Estuarine Research Reserve (WBNERR) for the period since October, 1998. The CZM is administered by the Massachusetts Executive Office of Environmental Affairs and WBNERR is administered by the Massachusetts Department of Conservation and Recreation, Division of State Parks and Recreation.

This document sets forth the evaluation findings of the Director of OCRM with respect to the CZM and WBNERR the period from October 1998 and February 1999 through September 2003. The fundamental conclusion of this evaluation of the CZM and WBNERR is that Massachusetts is successfully implementing and enforcing its federally approved Coastal Management Program and the Waquoit Bay NERR. The recommendations made by this evaluation appear in **bold** type and follow the section of the findings in which the facts relative to the recommendation are discussed. The recommendations may be of two types:

(1) **Necessary Actions** address programmatic requirements of the CZMA regulations and of the CZM and WBNERR approved by NOAA, and must be carried out by the date(s) specified. There are no Necessary Actions within this document.

(2) **Program Suggestions** denote actions which OCRM believes would improve the management and operations of the Program, but which are not mandatory at this time. Program Suggestions that must be reiterated in consecutive evaluations to address continuing problems may be elevated to necessary actions. The CZM and WBNERR are expected to have addressed the Program Suggestions by the time of the next section 312 evaluation.

The findings contained within this document will be considered by NOAA in making future financial assistance award decisions relative to the CZM and WBNERR.

II. Program Review Procedures

A. Overview

The Office of Ocean and Coastal Resource Management (OCRM) evaluation staff began review of the CZM and WBNERR in July 2003. The Section 312 evaluation process involves four distinct components:

An initial document review and identification of specific issues of particular concern; a site visit to the State and WBNERR including interviews and public meetings; development of draft evaluation findings; and preparation of final evaluation findings, partly based on comments from the state regarding the content and timetable of Necessary Actions specified in the draft document.

B. Document Review and Issue Development

The evaluation team reviewed a wide variety of documents prior to the site visit, including: (1) the federally approved Environmental Impact Statement and program documents; (2) financial assistance awards and work products; (3) semi-annual performance reports; (4) official correspondence; (5) previous Section 312 evaluation findings; and (6) relevant publications on natural resource management issues in the Commonwealth.

C. Site Visit to Massachusetts and WBNERR

Ralph Cantral and Kenneth Walker, Evaluation Team Leaders, NPED, Diana Olinger, Coastal Management Specialist, CPD, OCRM, Doris Grimm, ERD, OCRM, Laura McKay, Program Director, Virginia Coastal Management Program, and Gena Carter of the Coastal States Organization conducted a site visit the week of September 8-12, 2003. The Evaluation Team met with representatives of CZM and WBNERR, state and local governments, Federal agencies and interest group representatives during the site visit.

As required by the CZMA, public meetings were held as follows: Wednesday, September 10, 2003 at 6:00 p.m. at the Atrium at the CZM Offices, Boston; and at the WBNERR Conference Facilities on September 11, 2003, at 6:00 pm (**Appendix A** lists persons contacted in connection with the evaluation; **Appendix B** lists persons who attended the public meetings; and **Appendix C** contains the response to the previous findings.)

The support of the CZM and WBNERR staff in arranging meetings and transportation is gratefully acknowledged.

III. Coastal Area Description

Coastal Environment

Approximately 40 percent of the Commonwealth's population lives in the coastal communities on less than a quarter of its land mass. More than half of the land development in Massachusetts occurs in the coastal zone. The Massachusetts coastal zone is located generally between the first coastal road and the ocean, includes all of Cape Cod, Martha's Vineyard, Nantucket and the Elizabeth Islands, and extends to the seaward limit of the Commonwealth's territorial waters. Within this coastal zone are 78 coastal cities and towns which cover over 1,500 miles of coastline; 681 mapped barrier beaches with a total area over 18,750 acres; 46,964 acres of saltmarsh and 41,514 acres of tidal flats.

The Waquoit Bay National Estuarine Research Reserve (WBNERR) encompasses 2,600 acres of marsh, open water and upland fields and forests. WBNERR includes all of Waquoit Bay; the Great and Little Rivers, portions of the Quashet/Moonakis River and numerous ponds. The upland and marsh areas within the NERR include Washburn Island, South Cape Beach State Park, the Sargent Estate located at the head of the Bay, and wetland areas located adjacent to ponds.

Program Descriptions

The Office of Coastal Zone Management (CZM) was approved by the Office of Ocean and Coastal Resource Management (OCRM) in April 1978, and is currently in its twentieth year of program implementation. Using the "network" program management concept, the CZM is designed to improve the administration of existing Commonwealth laws. The CZM is implemented through several agencies within the Executive Office of Environmental Affairs (EOEA) with primary program management responsibilities assigned to the Massachusetts Coastal Management (CZM) Office. Enforceable policies for the CZM are carried out through the regulatory responsibilities of other agencies, particularly those within the Department of Environmental Protection (DEP).

The CZM Office brings together a staff of technical specialists in marine sciences, environmental law, policy, and public outreach, along with regional coordinators who serve as liaisons to communities and local organizations. CZM develops and implements coastal policy with the primary goal of protecting natural resources in the coastal zone while promoting responsible economic development. CZM also provides policy and planning advice to the state's Congressional delegation, the Governor, the Secretary of EOEA and EOEA departments, other state agencies, local officials and the public.

The DEP administers the state's environmental regulatory programs for the protection of water, air and land resources. DEP's programs of significance to the CZM are: administration of the

Chapter 91 Public Waterfront Act and Regulations, the Wetlands Protection Act and Regulations, and the Water Quality Certification Program.

The Coastal Resources Advisory Board (CRAB) remains as the Commonwealth's citizens advisory group. The CRAB continues to be active in state-level advisory planning, quality control, priority setting, education, management and review activities. Martha's Vineyard Commission and the 1990-established Cape Cod Commission continue to address coastal zone issues in their areas and work closely with the CZM Office.

The CZM consists of 20 enforceable program policies and nine management principles governing activities in the coastal zone. These are regulatory policies which form the basis for federal consistency decisions concerning proposed activities in or which will affect the coastal zone, and are based on existing statutory authorities which govern and are implemented by various environmental and planning departments within the Commonwealth. In 1997, the State revised its program policies and amended its program to include new enforceable policies relative to management of ocean resources. There are nine management principles, which are not currently enforceable policies as defined by the CZMA and 15 CFR Section 923.40. These principles are advisory and help set the Commonwealth's priorities for federal consistency decisions.

The enforceable policies for the CZM are based on the following major authorities:

- * Wetlands Protection Act (MGL c. 131, s. 40)
- * Public Waterfront Act (MGL c. 91)
- * Ocean Sanctuaries Act (MGL c. 132A, ss.12A-16F, 18)
- * Energy Facilities Siting Board (MGL c. 164, ss. 69H-69Q)
- * Massachusetts Environmental Policy Act (MGL c. 30, ss. 61-62H)
- * Marine Fisheries (MGL c. 130, ss. 1-104)
- * Areas of Critical Environmental Concern (MGL c. 21A, s. 2(7))
- * Massachusetts Clean Water Act (MGL c. 21, ss 26-53)
- * State Environmental Code (MGL c. 21A, s. 13)

The Massachusetts Department of Conservation and Recreation (DCR) Division of State Parks and Recreation is the lead state agency for WBNERR. The WBNERR was designated as representative of the Southern New England portion (Cape Cod to Sandy Hook, NJ) to the Virginian Province. The WBNERR is administered by Region 1 of the Division of State Parks

and Recreation within the Department of Conservation and Recreation. The management of the Reserve is guided by a management plan completed in 2000. The plan provides direction for the administration, land acquisition, resource management, research programs and education and interpretive programs. According to the mission statement in the management plan:

The Waquoit Bay National Estuarine Research Reserve provides long-term protection of the habitats and resources of this representative estuarine ecosystem, which serves as a natural laboratory for research by the Reserve and others to further our understanding of natural estuarine and watershed-linked processes and human influences on them. The Reserve works, through partnerships, to make the resulting information available to the public and policy makers to promote informed coastal decision making for this site as well as for similar sites in the same biogeographic region.

V. Accomplishments, Review Findings and Recommendations

Joint CZM & WBNERR Accomplishments

1. Coordination

Accomplishment: The development and implementation of the Massachusetts Coastal Training Program (CTP) is a notable accomplishment. It was a joint effort between WBNERR and various partners, including the CZM, and it is the first CTP in the NERR System to be officially launched.

The evaluation team was impressed with the level of coordination and cooperation between CZM and WBNERR. CZM, WBNERR along with Woods Hole Oceanographic Institute (WHOI) Sea Grant, developed the CTP as a true partnership rather than having one agency take the lead and the others serve as “advisors.” In addition, WBNERR and CZM participate in statewide meetings of federally associated coastal managers, which brings together CZM, WBNERR, NMS, NEP and others to share information and foster partnerships. The evaluation team noted that this is a model forum for sharing information which could be useful in other coastal states.

The evaluation team also recognized the transferability of current CZM and WBNERR projects. CZM projects include benthic habitat mapping, docks and piers analysis, and outreach to decision makers on smart growth and native species in the North Shore region. WBNERR projects include outreach and education models for nitrogen loading and sustainable design and environmentally friendly landscaping initiatives.

Program Suggestion: Although the two programs work well together, CZM and WBNERR are encouraged to take a more strategic approach to coordination and continue to ensure the science meets manager’s needs and research supports management and improved decision-making statewide.

2. Communication/Outreach & Education/Training

Accomplishment: Both programs have developed model mechanisms for communication, outreach and education.

Both programs have developed excellent publications and outreach materials. CZM’s e-mail based CZ Mail was given high marks by several respondents, and Coastlines has evolved into a showpiece of in-depth analysis of key coastal issues.

WBNERR has a long time role in educating local officials and coastal managers so they can make better informed decisions where there are impacts to coastal resources. Examples include extensive outreach on nitrogen loading and nonpoint issues related to water quality and coastal algal blooms. WBNERR has also developed a series of topical reports (such as those on climate change) that are very high quality and that have been distributed to local decision-makers. WBNERR has also started working with homeowners associations to consider ways to reduce nitrogen from on-site septic systems. In addition, WBNERR has developed a new stewardship program which has the potential for having far reaching affects on other land protection programs throughout the state by becoming the model of effort that can be transferred to parks, coastal management programs, and other environmental land protection entities.

As a networked program, the CZM program works closely with other state agencies. CZM's involvement in the state regulatory process takes many forms, such as providing up-to-date technical information for the development of new regulations, resolving policy questions that affect the permitting process, providing comments to the Massachusetts Environmental Policy Act Unit during their project review, and bringing together federal and state regulatory officials to work out problems that have stalled important projects. The CZM also coordinates state efforts by convening interagency task forces to solve complex problems, developing networks on coastal issues, and serving as the coastal lead with Massachusetts Environmental Policy Act issues. The CZM has developed a laudable relationship with the federal agencies. This relationship has matured to a point where discussions are continuing and not just on a case-by-case or crisis-by-crisis basis.

The team recognizes that the current structure giving 'autonomy' to regional offices to identify and address issues related to their region is a good one. The efforts to provide assistance to the towns appear to be working well. The CZM's Great Marsh project is an innovative way to create public 'ownership' of a unique resource. It should serve as a model for other Critical Area initiatives. The 'near real time' communications effort by Buzzard's Bay staff to provide information to local governments and citizens is also laudable (a recent oil spill is one example).

3. Leadership

Accomplishment: Both WBNERR and CZM are providing national and state-wide leadership on existing and emerging coastal management issues.

The CZM and WBNERR both play key leadership roles in the State in addressing existing and emerging coastal management issues. The CZM has taken leadership at the state level to address many of the complicated facets of coastal and harbor management and is on the cutting edge of addressing these issues. The Secretary of EOEa is providing leadership on marine and estuarine issues which provides new opportunities for both programs to excel. The CZM is staffing the Massachusetts Ocean Resources Information System (MORIS) and is continuing to develop the ocean resources inventory to provide information for decision-makers.

The Reserve continues to excel in its ability to provide scientific and educational tools that help transfer science to management. The Reserve devises ways to present scientific and technical topics for consumption by the public at different educational levels. For example, target audiences include elected officials, homeowners associations, business owners, watershed residents, and school children. This effort helps educate the community, which is a key element in protecting the valuable, vulnerable resources not only for Waquoit Bay but also for the watershed and beyond.

WBNERR has been a national leader in the National Estuarine Research Reserve system(NERRs), taking on the global issue of climate change and working at the local level to promote sustainability of coastal resources. Important WBNERR research on eutrophication and addressing nitrogen inputs from fertilizer application, septic leaching and atmospheric deposition is relevant to the entire NERR and CZM system. WBNERR leads the way for important estuarine management related efforts including training that contributes to the environmental health of coastal watersheds and informed coastal management decision-making. WBNERR provides estuarine and watershed management information through workshops to vast numbers of people across a number of disciplines.

Office of Coastal Zone Management Accomplishments & Recommendations

A) Ocean Management

Accomplishment: The Massachusetts Ocean Management Initiative is a notable accomplishment. The CZM is encouraged to continue to provide leadership and assistance with this important Initiative.

Massachusetts is a leader in developing a state ocean management system. Efforts to manage ocean resources began with the need to regulate fishing activities and designate shipping lanes. In the twentieth century, mooring fields, special use areas, and other types of ocean zoning became more common, as local, state, and federal government agencies sought to manage increasing fishing and navigational uses. Until recently, the relatively informal management of ocean resources responded to existing needs.

Advances in science and technology, new vessel use and construction, dependence on fossil fuels, and limited undeveloped land brought a host of changes to the Massachusetts coast -- and with them, apparent deficiencies in ocean management structures. With the recent and rapid advent of long-distance fiber optic cables, natural gas pipelines, offshore wind energy farms, wave-generated electricity facilities, and large-scale aquaculture, the "first come, first serve" approach that characterized ocean management in the twentieth century is inadequate to comprehensively assess these and other types of ocean projects. A new approach to ocean management is needed to safeguard ocean resources, fulfill the Commonwealth's obligations under the public trust doctrine, and resolve competing interests to use these public resources.

In March, 2003, Governor Romney announced the Massachusetts Ocean Management Initiative, the goal of which is to comprehensively manage the Commonwealth's ocean resources. To reach this goal, the Commonwealth will develop a systematic approach to conserve ocean resources, protect the public trust, and manage competing interests to use these public resources.

Specifically, the Massachusetts Ocean Management Initiative involves a three-pronged effort. First, the Commonwealth will establish a more proactive process for managing ocean resources within state waters, which generally extend three miles offshore. Second, to provide a seamless ecosystem approach, the Commonwealth must work with the federal government to improve management of ocean resources in federal waters, both through Congressional activity and by including federal ocean managers in the Massachusetts Ocean Management Initiative. Third, administrative, regulatory, and statutory provisions and policies must be reviewed, revised, and strengthened to address environmental, planning, and public trust issues in both state and federal waters.

To advise the leadership of the Massachusetts Ocean Management Initiative, Environmental Affairs Secretary Ellen Roy Herzfelder has named a Task Force to examine the current issues, identify data and information gaps, review existing ocean governance mechanisms, and issue recommendations for administrative, regulatory, and statutory changes. The Task Force will also recommend state-wide planning principles, which will form the basis for the ocean management process.

The final Task Force report and recommendations can be found at:

<http://www.mass.gov/czm/momi/finalrpts.htm>

B) Regional & Local Structure

Accomplishment: The regional structure of the CZM is highly successful in terms of responding to regional coastal issues in Massachusetts.

With so many state, federal, local, private, and nonprofit groups working on coastal issues, the CZM has made the effort to focus energies in a targeted and coordinated approach. Whenever possible, the CZM takes the responsibility to bring all these groups together by actively coordinating coastal policy-making and implementation with local, state, regional, national, and international organizations.

At the local level, CZM works closely with the 78 coastal cities and towns in Massachusetts. The CZM provides technical assistance and other support to local officials and other interested parties. Since most coastal issues transcend municipal and state boundaries, the CZM is also an integral part of a regional coastal network that includes municipalities, state and federal

lawmakers, academic and research institutions, environmental groups, and the business community. In particular, the CZM employs regional coordinators that serve as direct liaisons to the communities. This regional perspective (detailed local knowledge of CZM's regional coordinators) has allowed the CZM to tailor its assistance to address regionally significant issues. The North Shore office has focused on growth management issues while the Cape has focused on dredging issues. In addition, the expertise of the regional coordinators is sought out by other state agencies when questions arise about coastal issues. In addition to its regional offices, the CZM's major regional efforts include administering two National Estuary Programs: the Massachusetts Bays Program and the Buzzards Bay Project.

For example, priorities for the North Shore Office have been development and coordination for three successful North Shore networks: the regional conservation commission network, the regional health boards network, and the regional planning board network. Each network is composed of 26 coastal and coastal watershed communities that meet once a month, facilitated by the North Shore Regional Coordinator. MCZM network goals are to provide technical assistance and problem solving, promote regional initiatives, and share information. Conservation subdivision design and native landscaping have been recent areas of focus.

C) Port and Harbor Planning

Accomplishment: The CZM continues to provide valuable technical assistance and support to coastal communities on port, harbor, waterfront and public access issues. This state-local partnership focused on port issues is a model for the national system.

The CZM is working with coastal communities and designated port areas to ensure that waterfront areas in the Commonwealth grow in a safe, environmentally sound, and economically prosperous manner. One way CZM pursues these goals is to encourage the creation or expansion of water-dependent facilities in developed port and harbor areas. This approach maximizes the value of these developed ports and ensures that businesses that require close proximity to harbors, such as shipping and fishing facilities, will have a place to flourish. CZM also helps communities to develop harbor plans to promote sustainable development in these vital economic areas. The success of these plans, however, often rests on the navigability of the harbors. Assessing dredging needs and siting options for disposal of dredged materials are, therefore, two CZM priorities.

CZM is playing a leading role in preparing the Commonwealth's ports and harbors for the economic opportunities of the 21st Century. The major initiatives CZM has undertaken in this area are:

* The Four Ports Planning Initiative - CZM is working with four major ports outside of Boston Harbor (Gloucester, Salem, New Bedford/Fairhaven, and Fall River) to meet future

harbor development and dredging needs through a scoping and advanced planning process, culminating in detailed Port Plans that focus on implementation.

* The Dredged Materials Management Plan - Ports seeking to dredge their channels to maintain existing commercial traffic or to attract larger vessels must currently undertake a lengthy and expensive process to identify a disposal site for material that cannot be placed in the open water ("unsuitable material"). To solve this problem, CZM is working with the U.S. Army Corps of Engineers to develop a statewide Dredged Material Management Plan (DMMP). To coordinate with the Four Ports Initiative, the DMMP will focus initially on Gloucester, Salem, New Bedford/Fairhaven, and Fall River.

Through these Initiatives, CZM has developed a series of Dredged Material Management Plan (DMMP) Technical Reports. These publications characterize the environmental and economic issues surrounding dredged material management in the Commonwealth, providing information on marine resources (sediment type and quality, seafloor habitat, fisheries, and archaeology) and the impacts associated with dredging and dredged material disposal.

In addition, the CZM has invested a considerable amount of time and energy in implementing Chapter 91, which requires public access, and working with municipalities on Municipal Harbor Plans (MHPs). In Boston alone, MHPs have or will result in opening up to the public approximately 4 miles of previously inaccessible waterfront. In addition to planning roles, the Chapter 91 mapping project is an effort to identify historic areas where jurisdiction might apply.

D) Coastal Areas of Critical Environmental Concern.

As part of the CZM, Areas of Critical Environmental Concern (ACEC) were designated to provide more stringent regulatory protection to regionally significant coastal wetlands and coastal resources. The CZM also helps identify potential coastal wetland restoration sites and coordinates and participates in the resulting wetlands restoration. For high hazard areas (such as barrier beaches) CZM provides technical information and policy development to local officials to help them manage growth in the areas in jeopardy. In addition, through Federal consistency review and technical assistance, CZM pays close attention to barrier beaches, salt marshes and other important wetland resource areas.

Recent efforts by local champions have increased local awareness of the important of ACECs in the Great Marsh. Essentially an education and awareness campaign, this initiative was very successful in raising awareness of this valuable and threatened resource. Great Marsh is an excellent example to build local support for ACECs. In addition to awareness efforts, the ACEC program undertook an intensive review and boundary clarification of six coastal ACEC boundaries on Cape Cod. These boundaries will now be shown more accurately on USGS base maps using current GIS mapping applications, as well as on statewide digital data sources.

Program Suggestion: The CZM should work with coastal communities to build enhanced awareness and increase local protection of ACECs and continue enhancements to ACEC boundaries.

E) Nonpoint Source Pollution

Since the last 312 review, the CZM has continued to make progress in development and implementation of the state's Coastal Nonpoint Pollution Control Program (CNPCP). Two grant programs administered by CZM support the implementation of the Coastal Nonpoint Pollution Control Program.

- * The Coastal Pollutant Remediation (CPR) Grant Program, which provides funding to municipalities in Massachusetts coastal watersheds, targets projects that address stormwater discharges from roads, highways, or parking areas and municipal boat sewage management efforts. CZM is also actively involved in promoting EPA's No Discharge Area designations for municipalities and regions in Massachusetts.

- * The Coastal Nonpoint Source Pollution (Coastal NPS) Grant Program (formerly CPR Plus) complements CPR and addresses more general areas of nonpoint source control. These grants to municipalities, as well as other public and non-profit groups, can be used for the following types of projects: assessment, identification, and characterization of nonpoint sources; the development of transferable tools (nonstructural best management practices) such as guidance documents, model by-laws, and land use planning strategies to improve nonpoint source control and management; and the implementation of innovative and unique demonstration projects. Funding for Coastal NPS grants is provided by the National Oceanic and Atmospheric Administration through annual congressional appropriations for the National Coastal Nonpoint Program.

Also as part of the Coastal Nonpoint Pollution Control Program, CZM developed the Massachusetts Clean Marina Guide. This reference for owners and operators of marine boating facilities provides information on cost-effective strategies and practices aimed at reducing marina and boating impacts on the coastal environment.

In order to assist coastal managers in identifying data specific to coastal waters and aquatic habitat, CZM has developed the Coastal Monitoring Station Inventory, a spatial database containing the geographic location of coastal monitoring stations as well as tables detailing the type of information collected at each monitoring site. CZM has also worked on revisions to Title 5 of the state sanitary code which regulates installation and maintenance of septic systems, and is active in the permitting process for discharges from wastewater treatment plants into coastal waters, and makes recommendations to the Secretary of Environmental Affairs on a variety of water quality issues.

Program Suggestion: The CZM should continue to enhance its CNPCP, and should continue to address important sources of nonpoint pollution, including failing septic systems.

F) Invasive Species Management

Accomplishment: The CZM's leadership on aquatic nuisance species is a model for regional approaches for this important national issue.

The CZM has served as the regional lead on developing a regional (New England, NY, Atlantic Canada, and Quebec) approach to invasive species (not just marine invasive species) and has teamed up with MIT Sea Grant on regional approaches to ballast water management. The CZM has also led the development of the invasive species management plan for Massachusetts, which resulted in annual funding for implementation of key activities.

The introduction of aquatic invasive species in Massachusetts poses a serious threat to the water resources of the Commonwealth. These non-native plants and animals are transported into and throughout Massachusetts waters via commercial shipping, as fouling organisms on recreational boats, through the release of unwanted aquarium contents, or a variety of other transport vectors related to human activities. Because they have few natural controls in their new environments, these species have great potential for rapid colonization and are already having significant impacts on the biodiversity and integrity of aquatic habitats in Massachusetts.

Recognizing the potentially devastating impacts of non-native species on marine and freshwater environments, a coalition of Massachusetts state agencies, federal government officials, consultants, and other managers has formed the Massachusetts Aquatic Invasive Species Working Group. The primary objective of the Working Group has been to develop and implement a comprehensive Aquatic Invasive Species Management Plan for Massachusetts. Through the development of this plan, the Working Group has designated priority species for control and management, developed a coordinated monitoring and prevention strategy, and developed objectives for educating industry representatives, government officials at the federal, state and local level, and the general public about the aquatic invasive species problem.

An important component of the development of this plan has been review and comment by interested parties not otherwise involved in the planning process. The Aquatic Invasive Species Working Group conducted five public scoping meetings in various regions of the state in the summer and fall of 2001. These meetings have given the Working Group a local perspective on aquatic invasive species issues, and the Aquatic Invasive Species Management Plan was updated to address comments and issues arising from the public scoping meetings.

The Aquatic Invasive Species Management Plan was approved by the Federal Aquatic Nuisance Species Task Force in December of 2002, and implementation is ongoing. Year one project highlights include the development of a Marine Invasive Species Database, publication of invasive species outreach materials for the pet store industry and pet owners, and the development of invasive species rapid response protocols for the state and region. The Massachusetts Aquatic Invasive Species Working Group will develop new work plans each year and make them available to the general public upon request.

G. Wetlands Restoration Program

Massachusetts has lost approximately one-third of its pre-colonial era wetlands to historic human impacts. Many of the Commonwealth's remaining wetlands are degraded and offer diminished services to humans and wildlife. The mission of the MA Wetlands Restoration Program is to help people voluntarily restore the state's degraded and former coastal wetlands and the invaluable services they provide. The consolidation of the WRP program into the CZM provides an additional opportunity to coordinate state activities related to wetland restoration in the coastal zone.

Working with many federal, state, and local partners, WRP pursues its mission and relies on a network of partners to help make restoration efforts successful in Massachusetts. WRP supports restoration projects by providing guidance, coordination, and in-house technical assistance from experienced project managers for project development and implementation. Designated priority projects may also receive private sector technical services funded with WRP resources. WRP identifies potential wetland restoration sites by preparing regional restoration plans and coastal atlases of impacted aquatic resources. Promising sites identified in these plans and atlases are followed up with feasibility studies and other project development activities.

Through the WRP web site, restoration updates, publications, press releases and other outreach efforts, WRP works to inform and engage people in restoration planning and project implementation. Monitoring is an important element of restoration projects because it allows WRP and project sponsors to track restoration progress and ensure attainment of project goals. WRP also works with other state, academic, and non-profit programs to identify research opportunities and encourage research at restoration sites. The overall goals of monitoring and research are to ensure project success and improve future restoration efforts.

Program Suggestion: The CZM is encouraged to integrate the goals of the Wetlands Restoration Program into existing CZM programs.

Waquoit Bay NERR Accomplishments & Recommendations

H. Land Acquisition and Facility Expansion

Accomplishment: A significant accomplishment for WBNERR has been its involvement in the Mashpee National Wildlife Refuge (MNWR) Management Committee. The MNWR wraps around and overlaps the Reserve in several places. Together with its partners 1,700 additional acres have been protected in the watershed since 1995. The Reserve added 19 acres in the Childs River a couple of years ago and this past year acquired the Bufflehead property, a 35.2-acre parcel of important estuarine habitat that will be incorporated into the reserve boundary. In addition, the Reserve also purchased 8+ acres called the Phinney property and received a conservation easement on about 7 acres of Town of Mashpee open space located very close to the Bufflehead property. This represents a significant investment of NERRS funding (Section 315) for land acquisition.

WBNERR and the Department of Conservation and Recreation (DCR) have made important acquisitions of key properties in the Waquoit watershed. These properties are critical to the long term health of the Reserve and the watershed. In pursuing these acquisitions, it became evident that existing financial resources are inadequate to acquire the few remaining parcels needed to preserve the watershed from over development. This situation highlights the need for increased funding. Funding through NERRS and the Coastal and Estuarine Land Conservation Program (CELP) are possible sources.

Program Suggestion: WBNERR should continue to work with state partners to assure Waquoit Bay watershed land acquisition priorities are addressed and included in the MA CELP plan and the WBNERR management plan.

During the 312 meetings with WBNERR researchers, several mentioned the need for a dock to facilitate the research and monitoring at the reserve headquarters. Currently, both in-house and visiting researchers have to maneuver a dinghy from the beach into the water, row out to their moored boats, attach the dinghy to the boat, and bring the boat and dinghy to the shore to pull the dinghy on the beach again. These steps are necessary before the researchers can start loading their equipment into the boats. A dock would be a much more efficient way to access the boats and load equipment so they can get to their research sites quickly.

Also mentioned during the 312 meetings is the need for a larger meeting space. Currently WBNERR has two meeting spaces - the Boat House and the Main House. Both have limited capacity. For sitting around tables, conference style, only about 25 people can meet. With stadium style seating about 60 people maximum can be accommodated with all of the furniture removed. However, there are several times a year when WBNERR events draw more than 60 people, and this is expected to increase in the future-with the success of the Massachusetts Coastal Training Program. WBNERR's current vision is to add an additional "green" building that would include meeting space for at least 125 people, a kitchen, storage, plus some additional office space.

Program Suggestion: WBNERR should analyze future facility needs and incorporate these needs into a revised WBNERR facilities plan.

I. Research

Accomplishment: WBNERR continues to provide critical research on coastal issues such as eutrophication and nitrogen loading which are relevant at the local, state and national levels.

A wide range of coastal research is conducted at WBNERR. Many of these studies focus on the ways that excess nutrients (from fertilizers, septic systems and the burning of fossil fuels) move through watersheds and their effects on the estuarine system. Reserve scientists, visiting scientists and graduate students use WBNERR as a natural laboratory for their research. While addressing local issues, this research is relevant to estuarine systems nationwide. Research results are disseminated through a variety of mechanisms, including WBNERR's Science and Policy Bulletin Series, which has recently addressed issues such as "Local and Global Effects to Human-Induced Alterations to the Nitrogen Cycle" and "Nitrogen from the Atmosphere: Understand and Reducing a Major Cause of Degradation in our Coastal Waters."

J. Staffing

The evaluation team was very impressed by the caliber and dedication of WBNERR staff. Declining state budgets and other factors have created an uncertain landscape for hiring and maintaining staff. During the site visit, the evaluation team heard first hand about the problems contract staff were experiencing such as the lack of benefits enjoyed by full time state employees (ranging from health insurance to regular vacation and sick leave) and a sense of permanence within DCR.

It is NOAA's understanding that since the site visit, five contract staff have been converted to state employees. While this is a major accomplishment, the evaluation team recognizes there are still staffing issues to be addressed. The funding for these recent conversions comes from the NOAA award, which is intended to primarily fund education, training, research, monitoring, and stewardship programs. In FY04, funding for these position, plus 2 more that will be converted, will consume 65% of the NOAA award for WBNERR. This percentage will increase over the years because these recently converted positions are eligible for step increases each year with accompanying increases in benefits and indirect costs. The NOAA award must also cover WBNERR utilities, maintenance and office supplies, and contracts for maintaining the building systems. As the annual federal funding fluctuates from year to year, staff salaries funded solely by the NOAA award may affect the long-term status of Reserve positions.

For example, the stewardship position has become an important position within the NERRS. At the Reserve, the stewardship coordinator is now a full time position with benefits, but it is funded out of the NOAA operations grant. In order to institutionalize this key program, the position

needs to be stabilized with state funding, thereby leaving NOAA funding for needed stewardship projects.

Aside from the full time position conversion, the evaluation team also heard from WBNERR staff that there is a need for a better understanding and response from the Department of Human Resources about the unique human resource issues at the Reserve. The type and number of positions at WBNERR are somewhat dictated by the need to implement NOAA funded system-wide programs such as the System Wide Monitoring Program (SWMP) and the Coastal Training Program. In addition, the positions are often associated with limited duration grants. The delays in hiring jeopardize the Reserve's ability to implement the system-wide programs, adhere to the Federal guidelines and requirements for the programs, and spend the grant funding within the grant time period.

Program Suggestion: The DCR should consider funding other WBNERR positions or utilities and maintenance costs so that NOAA award funding could be used for programs and projects.

The Reserve positions are discussed and budgeted for in the annual NOAA grant and reviewed and approved by DCR and the Massachusetts legislative process. The DCR review also includes approval the Commissioner. The evaluation team also heard that the turnaround time for posting and hiring Reserve staff needs to be improved. One option could be to develop a staffing plan that acknowledges the uniqueness of the Reserve (and its federal mandates), and the need to fill Reserve positions in a timely manner. Such a plan should have the endorsement of the DCR Commissioner and appropriate Directors.

Program Suggestion: WBNERR and DCR should agree on a staffing and hiring plan (based on needs identified in WBNERR's management plan) to address deficiencies in personnel needs. WBNERR and DCR Human Resources should explore opportunities to increase interaction between staff and increase effectiveness of communication.

Another reserve staffing concern is with regard to seasonal hiring. The Reserve advertises in the winter, and interviews and selects its preferred candidates in early spring. However, by the time the Reserve gets the approval to fill a position, the best potential hires have often already taken other positions. In addition, often there is a delay in Boston in processing the paper work for the candidates that do accept the Reserve positions. This results in the summer workers arriving from around the country for an expected start date and having to wait weeks to officially start work. Even then there are delays in them getting paid. Delays in DCR's hiring process continues year after year and may eventually, if it hasn't already, create a negative impression for potential want-to-be reserve employees. The key to a successful seasonal hiring program includes an abbreviated hiring process for summer hires and an refined financial system that provides prompt payment to the seasonal folks for services rendered.

Program Suggestion: DCR should provide WBNERR with the necessary means to fill seasonal positions in an expedient manner so that the reserve can take advantage of hiring the best and brightest summer interns.

K. Equipment & Supplies

As a leader in the NERR research system, WBNERR relies on the timely provision of specialized equipment and supplies to achieve its goals and meet system-wide requirements such as the NERR System-Wide Monitoring Program. The evaluation team heard first-hand that the timely acquisition of computers and specialized equipment has been an obstacle to fully implementing WBNERR initiatives. For example, recent delays in obtaining management information system (MIS) computer equipment and data loggers has postponed implementation of critical research activities. As the evaluation team understands, some orders for critical pieces of equipment, such as MIS computer equipment, has taken over a year to fill. Such delays have caused the reserve to get behind on program efforts that are on time-sensitive schedules, and these delays may affect schedules for national NERR-wide initiatives.

Program Suggestion: DCR should modify the approval process to ensure timely acquisition of equipment and supplies, especially since such equipment and supplies requests have already been approved through the annual NOAA grants process. Within three months of receiving the final Findings, DCR should submit a strategy to NOAA for addressing this issue.

L. New Opportunities for WBNERR in DCR:

In previous 312 evaluation findings, it was pointed out that the placement of WBNERR in its former state agency, the Department of Environmental Management's Division of Forest and Parks, affected WBNERR operations and critical issues. For example, basic issues relating to staffing, equipment and supply needs, as well as overall programmatic and administrative support, to some degree, depend upon the relationship between NERR programs and their parent state agency.

During this evaluation site visit, potential issues considered by the evaluation team included the current placement of the Reserve within its recently reorganized parent agency, the need for better visibility within DCR to fully implement its mission to better serve its parent agency, the state, and all its partners including NOAA; and the need to be better placed within the organization in order to have a strong voice and appropriate attention to issues such as getting equipment (MIS computers and data loggers) orders filled in a timely fashion. More importantly, access to and the ability to provide input on environmental issues facing the state would place WBNERR in a more strategic position to help facilitate action and leadership on estuarine related issues. As a premiere Reserve within the NERR system, NOAA encourages WBNERR to pursue a leadership position within the state to increase focus in addressing estuarine and coastal issues.

As a newly created state agency, DCR should fully consider WBNERR's needs and issues arising from this 312 evaluation. DCR should be able to assure NOAA that WBNERR is properly positioned within the agency thus allowing the Reserve the opportunity to increase its

communication and coordination more effectively. NOAA considers this an important opportunity to address previous 312 recommendations and problems that arose in the past from the Reserve's placement in DEM, such as lack of communication within its parent agency.

Program Suggestion: DCR and WBNERR should develop a plan to address issues that have been problematic in the past, specifically: Reserve placement within the agency, staffing, equipment and supply needs, communication and visibility, and overall support and recognition from parent agency. A plan should be submitted to NOAA within six months of receiving final findings.

VI. CONCLUSION

Based on OCRM's review of the federally approved Massachusetts Coastal Zone Management Program and the criteria at 15 CFR Part 923, Subpart 1, I find that the State of Massachusetts is adhering to its federally approved coastal zone management program and the programmatic requirements of the NERR System in its operation of the WBNERR.

These evaluation findings contain ten (10) Recommendations all of which are program suggestions that the State should address before the next regularly scheduled program evaluation, but which are not mandatory at this time. Program suggestions that OCRM must repeat in subsequent evaluations, however, may be elevated to necessary actions.

This is a programmatic evaluation of the CZM and WBNERR that may have implications regarding the State's financial assistance award(s). However, it does not make any judgments on, or replace any financial audit(s) related to, the allocability of any costs incurred.

Date

Eldon Hout, Director

APPENDIX A

MASSACHUSETTS COASTAL ZONE MANAGEMENT PROGRAM and WAQUOIT NERR 312 EVALUATION

PERSONS CONTACTED DURING THE EVALUATION

Secretary Ellen Roy Herzfelder	Executive Office of Environmental Affairs
Bruce Carlisle	Wetlands Restoration Program (CZM)
Robin Lacey	Nonpoint Source Pollution Remediation (CZM)
Anne Donovan	CZM Outreach (CZM)
Tony Wilbur	Massachusetts Ocean Resource Inventory System (MORIS) (CZM)
Megan Tyrrell	MORIS (CZM)
Diane Carle	MORIS (CZM)
Sharon Pelosi	Department of Environmental Protection
Ben Lynch	DEP
Mike Gildesgame	DCR Ocean Sanctuaries Program
Liz Sorenson	DCR ACEC Program
Steve Mague	CZM-C. 91 Mapping Project (CZM)
Paul Diodati	Division of Marine Fisheries
Janet Hutchins	Mass Environmental Protection Agency
Judith Pederson	MIT Sea Grant
Jan Smith	Mass Bays NEP
Joe Costa	Buzzards Bay NEP
Deb Hadden	Massport
Karen Adams	U.S. Army Corps of Engineers
Bill Hubbard	U.S. Army Corps of Engineers
Greg Penta	U.S. Army Corps of Engineers
Ed Reiner	EPA
Sean McDermott	NOAA Fisheries
Chris Boelke	NOAA Fisheries
Tina Burke	U.S. Coast Guard
Gary Williams	U.S. Coast Guard
Andrea Cooper	North Shore Regional Coordinator (CZM)
Rebecca Haney	CZM Coastal Geologist (CZM)
Jason Burtner	South Shore Regional Coordinator (CZM)
Jane Mead	CZM
Vivian Li	Boston Harbor Association
Brian Wynn	City of Quincy
Brian Shanahan	DCR Region One Regional Director
Mary Griffin	DCR
Kenan Foley	DCR Division of State Parks

Christine Berry
Norma Forgione
Peter Scavotto
Peter Webber

Johanna Zabrieski
Marianne Connolly
George Berkowitz
Ann Sheriwald
Les Smith
Jack Wiggin
Rob Thielier
Jeff Donnelly
Kevin Kroeger
Matthew Charette
Richard Payne
Ivan Valiela
Gabrielle Tomasky
Holly Michael
Richard York
Ted Liszewski
Joe Apicella
Tom Fudala
Michael Cole
Matthew Bailey
Francis Smith
Arthur W. Neill
Peter Boyer
Ellen Gugel
Pamela Polloni

Vida Wagner
Steve Hurley
Joan Pierce
Georgeann Keer
Michelle Wood

DCR Legal/Land Acquisition
DCR Administration
DCR Deputy Director Administration
DCR Acting Director, Division of State
Parks & Recreation
DCR Human Resources
Coastal Resources Advisory Board
CRAB
CRAB
CRAB
CRAB
U.S. Geological Survey
Woods Hole Oceanographic Institute
WHOI
WHOI
WHOI
Boston University Marine Program
Boston University Marine Program
MIT
Mashpee Shellfish Department
WBNERR Volunteer
WBNERR Volunteer
Mashpee Town Planner
Homebuilders of Cape Cod
Mass Audubon
Trout Unlimited
Senior Environment Corps
The 300 Committee
Orenda Wildlife Land Trust
Mass Natural Heritage & Endangered
Species Program
Citizens for Protection of Waquoit Bay
Mass Wildlife
Mass Wildlife
Wetlands Restoration Program
AmeriCorps Cape Cod

APPENDIX B

**MASSACHUSETTS COASTAL ZONE MANAGEMENT PROGRAM
312 EVALUATION**

PERSONS ATTENDING THE PUBLIC MEETING

Boston
September 10, 2003

Vivien Li	Boston Harbor Association
Brian Wynn	City of Quincy

WBNERR
September 11, 2003

Matthew Patrick	State Representative Third Barnstable District
Donald Lunn	Waquoit Bay Yacht Club
Jayne Abbott	Citizens for the Protection of Waquoit Bay

APPENDIX C

WBNERR 312 EVALUATION FINDINGS FOR PERIOD DECEMBER 1994 THROUGH SEPTEMBER 1998

Review and Status of Findings

NECESSARY ACTION –DEM must develop a plan to convert the key reserve staff positions to full-time state employees and establish more stable funding sources for other important reserve staff. This plan must be developed within one year of receipt of final evaluation findings. The state must also provide updates on the status of converting the key staff to full-time staff positions in all performance reports.

RESULTS TO DATE– The Research Coordinator position was made into a full-time state position when the last Research Coordinator left. Chris Weidman was hired as a full-time state employee in that position. Two other full-time positions, Education Coordinator and Research Translator, were paid via state funds; however these two positions are yearly renewable contractual positions which have no benefits. Last Fall the person in the Research Translator left and DEM decided not to continue funding that position with state funds. That position is now budgeted in the Federal award. There are still problems with Human Resources.

NECESSARY ACTION - DEM and the WBNERR must develop a plan to better support and coordinate the Reserve's needs in the agency.

RESULTS TO DATE– DEM and WBNERR hold administrative meetings with DEM's department heads, as needed. Support has definitely improved. Notable is the DEM Regional Director, Brian Shanahan who is very supportive of the Reserve. Also DEM's new Federal Grants Administrator, Norma Forgione has been very helpful and a pleasure to work with. Excellent support for land acquisition is also being provided by Christine Berry. However, there are still some problems with getting focus on the Reserves issues. An example of this is not being able to get feedback on the plan to split the NOAA grant with the UMASS system until after the negotiations had taken place, agreements made and the two grants already written.

PROGRAM SUGGESTION – DEM and WBNERR should work with the Reserve Advisory Committee to develop a strategic for the Committee to play a more useful role to the Reserve and DEM. Specifically, the strategic plan should include specific tasks that the Advisory Committee can do to assist in the future goals and directions of the Reserve.

RESULTS TO DATE – The Waquoit Advisory Committee has not met in a couple of years. This was a conscious decision on my part as a means to disband the group which had been meeting unproductively for many years. A few months ago we began the process of resurrecting the advisory committee. I met with Anita W. and developed a strategy based on the Reserve's Management Plan and the DEM requirements. We now have a list

of several people who have agreed to serve on the reconstituted committee. The list has been sent to the Executive Secretary of Environmental Affairs who recently told me that she and the Governor want to select some people for the Committee themselves. Because of this delay there will not be an advisory committee in place at the time of the evaluation although a very good one will be in place in the near future.

PROGRAM SUGGESTION – The DEM and WBNERR should develop a funding strategy plan to allow for the purchase of lands identified within the Reserve boundary that are not under state control. This includes lands identified in the new National Wildlife Refuge which have been identified for inclusion within the Reserve.

RESULTS TO DATE– The Reserve has been successful in receiving several NOAA awards for land acquisition within the Reserve and Refuge acquisition boundaries. In most cases the success was due in large part to partnerships for example, with Falmouth's 300 Committee, the Friends of the Mashpee National Wildlife Refuge, Orenda Wildlife Trust, etc. Christine Berry has been very important to these ventures. This year we already added 35 acres; more transactions are in the works. Last year we added 19 acres on the Childs River. Next year we will receive \$1.5 million for land acquisition.

NECESSARY ACTION – The WBNERR and DEM must develop a plan to address the disposal of chemicals and other hazardous substances that result from routine operations. This plan must be developed and implemented within three months of receipt of final findings.

RESULTS TO DATE- Waquoit Bay NERR has an agreement for disposal, storage and treatment of hazardous waste (VSQGHW) with the Woods Hole Oceanographic Institution (WHOI).

NECESSARY ACTION – The WBNERR must complete the revision of its management plan, as required by the NERRS regulations. The state must submit the final revised management plan, in approved form for public review and comment, within one year of receipt of final findings.

RESULTS TO DATE – The Management Plan was completed in 1999 and printed and distributed in September 2000.

PROGRAM SUGGESTION – The WBNERR is encouraged to develop a volunteer handbook that describes the Reserve and its programs, as well as provides information to address visitors' questions more effectively.

RESULTS TO DATE – The volunteer handbook is complete.

NECESSARY ACTION – (A) DEM and WBNERR must complete the exhibits by July 1999, as required by the extended financial assistance award. (B) DEM and WBNERR must develop a mechanism to improve the telephone system at the Reserve to insure that staff is able to complete their required tasks. This corrective action must be completed within one year of receipt of final evaluation findings. ©) DEM and WBNERR must develop a plan to allow for the purchase of

several necessary pieces of equipment to replace out-of-date and non-operable items. This plan must be completed and submitted to NOAA within one year of receipt of findings.

RESULTS TO DATE – (A) The exhibits (both interior and exterior) have been completed. (B) A new expanded telephone system was installed in 2000.

©) Although several of the items that prompted this necessary action have been purchased such as the research boat, computers, etc., this plan has not been made. Instead necessary purchases of large items are made on a case by case approach and require a lot of time and energy figuring out what is to be allowed, what isn't, what avenue to use to complete the purchase, etc.

9. **NECESSARY ACTION** – DEM and WBNERR must develop appropriate mechanisms to allow the purchase of small items by Reserve staff at more appropriate vendors. DEM must also develop mechanism to facilitate the timely purchase of specialized computer and other equipment in order to allow the Reserve to adequately implement its programs. These mechanisms must be developed and implemented within one year of receipt of final findings.

RESULTS TO DATE – An account has been set up at the local hardware store for small items needed. RFR's have been written to purchase larger items such as, the ISCO sampler. We are working closely with the MIS office through an annual MIS plan for timely purchase of computer equipment. There are still unworkable delays in MIS.

NECESSARY ACTION – The WBNERR must ensure that they format and transmit their outstanding data logger data to the CDMO within six months of receipt of final findings and all future data in accordance with the approved due dates.

RESULTS TO DATE - We are transmitting all data to CDMO with the agreed upon timelines.